

ABSTRACT OF THE DISCLOSURE

Disclosed is a dense wavelength division multiplexing-passive optical network (DWDM-PON) system utilizing self-injection locking of Fabry-Perot laser diodes, in which output optical signals of different wavelengths are partially fed back by a partial mirror, so as to injection-lock the Fabry-Perot laser diodes, respectively. In accordance with this system, inexpensive Fabry-Perot laser diodes can be used as respective light sources of a central office and optical network units (ONUs). Accordingly, it is possible to minimize the system construction costs, as compared to conventional optical networks.